

THE DER WEEKLY

www.eren.doe.gov/der

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In This Issue:

- **DOE News**
- **Industry News**
- **Green Power News**
- **The Weekly Factoid**
- **Gov. Davis Announces DER Package**
- **Calender of Events**

What's News With DER?

DOE NEWS

On February 6, **Distributed Utility Associates (DUA)**, Pacific Gas & Electric (PG&E), Endecon Engineering, Onsite Energy, Encorp, and the National Renewable Energy Laboratory (NREL) met at PG&E to discuss technology, controls, and siting issues for the Distributed Utility Integration Test plan being developed by the DUA team for DOE's Distributed Power Program. Endecon Engineering presented an outline for data requirements and a preliminary look at the outline for an overall test plan. The discussion centered on the overall control strategy needs for a DUIT plan and concluded with the beginning of coordination of the Data Acquisition System (DAS) and Control System Specifications of the Project Plan. The initial site assessment draft will be presented by PG&E on the Module Generation Test Facility located in San Ramon, CA, and reviewed by the team later in February. The Distributed Utility Integration Test is a planned field test to investigate the operation of multiple distributed generation and storage systems (DER) connected to a utility power distribution system. The Distributed Utility Integration Test will also support validation of the *IEEE P1547 Standard for Distributed Resources Interconnected With Electric Power Systems*.

The presentations made at the DOE **Distributed Power Program Review Meeting** held in Washington, DC, January 16-17, are now available on the Distributed Power Program's web site at www.eren.doe.gov/distributedpower.

A collaboration of public and private partners have agreed to fund the design and construction of a CHP demonstration project in the **Gateway National Recreation Area** in Brooklyn, New York. Microturbine CHP technology generating approximately 175 kW will be installed and monitored at Floyd-Bennett Field with funding from NYSERDA and cost sharing by the National Park Service (NPS), Oak Ridge National Laboratory (funded by DOE's Federal Energy Management Program and Office of Power Technologies), and Keyspan Energy (a gas distribution company). Landsberg Engineering, a NY-based small business firm specializing in the design of energy efficiency of buildings, received the competitive award from NYSERDA to implement the project. Floyd-Bennett Field was New York City's first airport and is now a historical site, the city's only campground, and the NPS Center for Sustainable Design Excellence for the eastern United States.

This project is intended and well-positioned to be a highly visible showcase of CHP technology. The park already receives tens of thousands of visitors annually, and the CHP system will be installed in a building that will be renovated and converted to a Human Ecology Learning Laboratory with a focus on urban ecology and environment. The new CHP installation will be the centerpiece of a permanent exhibit about the resource efficiency of CHP and DER technologies. Project partners will also carry out an aggressive and detailed study to document pre-construction baseline conditions, estimate savings from the new system, and document performance of the installed system.

DOE's **Office of Fossil Energy**, through the **National Energy Technology Laboratory**, has chosen Honeywell International to start working on the first stages of development for a fuel cell-turbine hybrid. The development of this planar solid oxide fuel cell will be a three-and-one-half-year effort costing approximately \$5 million (\$3.48 million from DOE). The planar fuel cell will be composed of stacked sheets of flat ceramic material anodes, electrolytes, and cathodes. Three 5-kilowatt planar fuel cells will be

(Continued on page 2)

connected to a turbocharger, which will be used as a compressor to boost the operating pressure of the fuel cell. Linking the fuel cell to the microturbine will tap the remaining high-temperature exhaust gases that exit the fuel cell. The gases will spin the blades of the microturbine, producing a second source of energy. The Honeywell flat planar design may offer greater power density. It would be a low cost, small, and highly efficient power unit with low enough emissions to be placed nearly anywhere.

Industry News

Cinergy Solutions, Inc., has finalized an agreement with BP to construct, own, and operate two natural gas cogeneration projects to be located in Texas. The systems will produce more than 800 MW of electricity and 3.5 million pounds of steam per hour for BP's Texas City and Chocolate Bayou refining and chemical sites. The new cogeneration projects will replace older, less efficient facilities and will be built through a joint venture between Cinergy Solutions and BP. The projects will reduce net carbon dioxide emissions by 727,000 tons per year and nitrogen oxides emissions by 53 percent at Texas City and 34 percent at Chocolate Bayou. The Chocolate Bayou system is scheduled to be commercial in 2002, and the Texas City project is scheduled to be operational in 2004.

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**Proton Energy Systems** has been awarded two additional patents "that enable low cost hydrogen production, purification and compression for industrial, fuel and energy storage applications." Proton Energy Systems is a leader in Proton Exchange Membrane

(PEM) technology, and has filed 34 U.S. patent applications and 12 international patents. Efforts at Proton Energy Systems yield more than 100 patent disclosures per year. The two patents include number 6,168,705, covering "a novel hydrogen purification and compression system," and 6,117,287, covering "new designs for the production of low cost electrolysis cell stacks."

### Clean Power News

**Green Mountain Energy Company** was chosen by the Northeast Ohio Public Energy Council (NOPEC) to serve more than 400,000 electricity customers in Ohio, amounting to "the country's largest-ever energy aggregation contract," and making Green Mountain Energy Company the largest green electric service provider in the U.S. Green Mountain is the first green power provider to enter the Ohio market and will begin serving Ohio customers in September, 2001. Green Mountain Energy Company's customer base throughout California, Pennsylvania, New Jersey and Connecticut surpasses 500,000.

### The Weekly Factoid

Did you know that DER has an online **discussion group**? This message board provides a forum for ongoing discussion among individuals interested in exchanging information and ideas about distributed energy resources. Please visit [www.eren.doe.gov/der/partnerships.html](http://www.eren.doe.gov/der/partnerships.html) and click on "Distributed Energy Resources Discussion Group" to sign up. Feel free to post information and comment on others' entries frequently to stimulate discussion!

## Feature of the Week

### California Governor Announces Bill Package To Increase Incentives for Renewable Energy, Distributed Generation, and CHP

On Wednesday, February 14, **California Governor Gray Davis** announced a legislative package to provide incentives for renewable energy, distributed generation, and co-generation (or combined heat and power, CHP) in order to help meet California's energy needs.

"By investing in renewable energy sources, clean distributed generation and co-generation, we can increase our energy supply without taking power away from the grid," Governor Davis said. "My generation plan contains the most ambitious renewable energy program in the nation."

Governor Davis' legislative package includes:

(Continued from page 2)

- **\$50 million to increase rebates** for renewable distributed generation systems smaller than 10 kW.
- A **50% tax credit** for the purchase and installation of renewable distributed generation systems larger than 10 kW and up to 200 kW for large facilities such as apartment complexes and businesses.
- **\$50 million for a commercial loan guarantee program** for renewable power systems, distributed generation and CHP facilities.
- **\$20 million for retrofit of distributed generation** owned by municipal water districts to improve environmental performance.
- **Elimination of the standby charges** paid by distributed generation end-use customers to Investor Owned Utilities. This includes small CHP facilities and only applies to units that generate less than 1 MW.

The Davis Administration intends to work closely with legislators to pass legislation to implement these proposals.

Governor Davis made this announcement at the **UC Davis Medical Center Co-Generation Plant** in Sacramento. The plant uses a natural gas-fueled turbine to generate electricity and captures the heat emitted by the turbine to produce steam for heating and cooling. The plant supplies not only all of the electricity, but also all of the heating and cooling needs for the Center. It produces 26 MW of power. Since the Medical Center needs less than half of that, the excess power is sold back to the ISO, which pays the Center's utility bills.

Governor Davis' energy plan relies on three elements: stabilization, conservation, and generation. The Governor is working with legislative leadership on a stabilization plan for the State's Investor Owned Utilities. In addition, Governor Davis recently unveiled an aggressive plan for energy conservation that will help reduce demand and keep costs down.

Sources: The California Governor's Website

[http://www.governor.ca.gov/state/govsite/gov\\_homepage.jsp](http://www.governor.ca.gov/state/govsite/gov_homepage.jsp) - *Click on Press Releases*

UC-Davis Health System Facilities Website

<http://www.ucdmc.ucdavis.edu/>

## CALENDAR OF EVENTS

| Date                 | Event                                                                                                                         | Location          | Other Information                                                                                                 |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>FEBRUARY 2001</b> |                                                                                                                               |                   |                                                                                                                   |
| 20-22                | Micro Power: Capitalizing on Distributed Energy Resource Strategies for Competitive and Reliable Power                        | San Francisco, CA | Bob Dixon is giving a talk entitled, "Distributed Energy Resources: What's New at the U.S. Department of Energy." |
| 19-22                | 4th Industrial Energy Efficiency Symposium                                                                                    | Washington, DC    | Sponsored by OIT; OPT will have a booth there; <a href="http://www.oitexpo4.com">www.oitexpo4.com</a>             |
| 22                   | Steel-Utility Workshop                                                                                                        | Washington, DC    | Peter Salmon-Cox; 202-586-2380                                                                                    |
| 28-March 1           | Electricity Restructuring Program Review                                                                                      | Washington, DC    | Larry Mansueti 202-586-2588; Tara Finck 202-479-2748                                                              |
| <b>MARCH 2001</b>    |                                                                                                                               |                   |                                                                                                                   |
| 8                    | NREL Brown Bag Series: Renewable Energy and Real Options Analysis                                                             | Washington, DC    | <a href="http://www.nrel.gov/events.html">www.nrel.gov/events.html</a>                                            |
| 20-24                | Distributed Generation Conference                                                                                             | San Diego, CA     | <a href="http://www.powerin.org">www.powerin.org</a>                                                              |
| 20-21                | Fuel Cell Investor 2001                                                                                                       | Boston, MA        | <a href="http://www.srinstitute.com/cr188">www.srinstitute.com/cr188</a>                                          |
| 21-23                | 5th Annual Distributed Generation and On-site Power Conference                                                                | New Orleans, LA   | Pat Hoffman to give keynote address; <a href="http://www.dist-gen.com">www.dist-gen.com</a>                       |
| 21-23                | Western Energy Institute Distributed Generation Conference                                                                    | San Diego, CA     | <a href="http://www.powerin.org/distgenregform.html">www.powerin.org/distgenregform.html</a>                      |
| 22-24                | Building Energy Conference                                                                                                    | Boston, MA        | Jonathon Tauer 413-774-6051, ext. 20                                                                              |
| <b>APRIL 2001</b>    |                                                                                                                               |                   |                                                                                                                   |
| 2-3                  | Business Communications Company's 1 <sup>st</sup> Fuel Cell Conference                                                        | San Antonio, TX   | EERE representative to speak; <a href="http://www.buscom.com">www.buscom.com</a>                                  |
| 23-25                | Intertech's Fifth International Conference on Distributed Power                                                               | Washington, D.C.  | Hugh Olmstead; <a href="mailto:olmstead@intertechusa.com">olmstead@intertechusa.com</a> ; 207-281-9606            |
| <b>MAY 2001</b>      |                                                                                                                               |                   |                                                                                                                   |
| 1-3                  | Industrial Energy Technology Conference                                                                                       | Houston, TX       | <a href="mailto:jim@esl.tamu.edu">jim@esl.tamu.edu</a>                                                            |
| 9-10                 | Energy Management Conference                                                                                                  | San Diego, CA     | Sponsored by FEMP; <a href="http://www.aeecenter.org">www.aeecenter.org</a>                                       |
| 21-23                | Third Annual ICEPAG (International Colloquium and Exhibit on Environmentally Preferred Advanced Energy Generation) Conference | Newport Beach, CA | More information next issue                                                                                       |
| 24-25                | Together with the First United Nations and DOE (FE and EE) Conference on Hybrid Power Systems                                 | Newport Beach, CA | More information next issue                                                                                       |
| 30-31                | Fuel Cells Codes & Standards Summit V                                                                                         | College Park, MD  | <a href="mailto:ronald.fiskum@ee.doe.gov">ronald.fiskum@ee.doe.gov</a>                                            |

## CALENDAR OF EVENTS

| Date                | Event                                                                              | Location          | Other Information                                                                                                 |
|---------------------|------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>JUNE 2001</b>    |                                                                                    |                   |                                                                                                                   |
| 3-6                 | FEMP Energy 2001 Conference                                                        | Kansas City, MO   | <a href="http://www.energy2001.ee.doe.gov/">www.energy2001.ee.doe.gov/</a>                                        |
| 3-7                 | WindPower 2001 Conference                                                          | Washington, DC    | <a href="http://www.awea.org">www.awea.org</a> ; <a href="mailto:laura_keelan@awea.org">laura_keelan@awea.org</a> |
| 11-13               | International Symposium on Distributed Generation: Power System and Market Aspects | Stockholm, Sweden | <a href="http://www.ekc.kth.se/ees/workshop/DG.htm">http://www.ekc.kth.se/ees/workshop/DG.htm</a>                 |
| <b>JULY 2001</b>    |                                                                                    |                   |                                                                                                                   |
| 10-12               | Gas Storage Workshop                                                               | Kingston, Ontario | David Quinn; <a href="mailto:quinn-d@rmc.ca">quinn-d@rmc.ca</a>                                                   |
| <b>AUGUST 2001</b>  |                                                                                    |                   |                                                                                                                   |
| 29-Sep<br>3         | IEEC Integrated Energy Efficiency Congress                                         | Cleveland, OH     | Sponsored in part by FEMP; <a href="http://www.aeecenter.org">www.aeecenter.org</a>                               |
| <b>OCTOBER 2001</b> |                                                                                    |                   |                                                                                                                   |
| 24-26               | World Energy Engineering Congress                                                  | Atlanta, GA       | <a href="http://www.agcc.org">www.agcc.org</a>                                                                    |